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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO.        |
|-----------------|-------------|----------------------|---------------------|-------------------------|
| 10/624,824      | 07/22/2003  | Mark Sanders         | 1805-009            | 6566                    |
| 28078           | 7590        | 04/13/2005           |                     | EXAMINER                |
|                 |             |                      |                     | CARRILLO, BIBI SHARIDAN |
|                 |             |                      | ART UNIT            | PAPER NUMBER            |
|                 |             |                      | 1746                |                         |

DATE MAILED: 04/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |
|------------------------------|------------------------|---------------------|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |
|                              | 10/624,824             | SANDERS ET AL.      |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |
|                              | Sharidan Carrillo      | 1746                |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 22 July 2003.

2a)  This action is FINAL.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-27 is/are pending in the application.  
4a) Of the above claim(s) 12-27 is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 1-9 is/are rejected.

7)  Claim(s) 10-11 is/are objected to.

8)  Claim(s) 1-27 are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-11, drawn to a method of removing a coating, classified in class 134, subclass 26.
  - II. Claims 12-22, drawn to an apparatus, classified in class 134, subclass 148
  - III. Claims 23-27, drawn to a method of removing paint, classified in class 134, subclass 38.
2. The inventions are distinct, each from the other because of the following reasons:  
Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the process as claimed can be practiced by another materially apparatus which does not require a plurality of spray nozzles.  
Inventions I and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different functions.  
Inventions II and III are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be

practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the apparatus as claimed can be used to practice another and materially different process such as degreasing.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

3. During a telephone conversation with Mr. Michael Beck on 3/30/05 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-11. Affirmation of this election must be made by applicant in replying to this Office action. Claims 12-27 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-2 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Schwarz (6253462).

Schwarz teaches a method of cleaning work pieces. The work pieces are held in the basket 18, the basket is introduced into the treatment vessel 1 which is flooded with a cleaning fluid. Cleaning fluid and/or gaseous medium are introduced into the treatment vessel through a discharge nozzle 8A, 8B. In reference to aeration, col. 2, lines 37-40 teach that the cleaning fluid and gaseous medium causes cavitation effects. In reference to claim 5, refer to col. 6, lines 20-23.

6. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Soyoma (WO00/42227).

For translational purposes, the examiner is relying on the corresponding US Patent 6,855,208.

Soyama teaches a method of cleaning metal surfaces in which a work piece W is immersed within a first vessel 1 filled with a fluid (Figs. 1-2, 4, 5, and 7). Soyama teaches injecting a pressurized fluid (high-pressure water) from nozzle 4 to generate cavitation 9 around the jet so that cavitation bubbles hit against the work piece. In reference to claim 2, refer to col. 5, lines 24-25 and lines 37-38.

#### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 3-4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwarz (6253462).

Schwarz is silent with respect to the type of chemical solutions used. However, it would have been within the level of the skilled artisan to select the type of chemical solution depending upon the amount and type of coating and /or contaminant to be removed from the substrate surface. Schwarz fails to teach the flow rate. However, it is

well within the level of the skilled artisan to adjust the flow parameter depending upon the amount of contaminants present on the substrate surface.

11. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwarz (6253462) in view of Birang et al. (65554003).

Schwarz fails to teach recirculation or filtration. Birang teaches a method of cleaning a work piece. In fig. 1, Birang teaches submerging the work piece in tank 13. The fluid 19 is recirculated through pipe 23 and filtered through 27 to remove particulates. It would have been well within the level of the skilled artisan to have modified the method of Schwarz to include filtration and recirculation, as taught by Birang for economical purposes of reusing the cleaning fluid.

12. Claims 3-5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Soyoma (WO00/42227).

Soyoma is silent with respect to the type of chemical solutions used. However, it would have been within the level of the skilled artisan to select the type of chemical solution depending upon the amount and type of coating and /or contaminant to be removed from the substrate surface. Soyoma fails to teach a heated solution. However, it would have been within the level of the skilled artisan to have modified the method to include heating the solution since it is well known that cleaning with a heated solution enhances the removal of particles or contaminants from the wafer surface. Soyoma fails to teach the flow rate. However, it is well within the level of the skilled artisan to adjust the flow parameter depending upon the amount of contaminants present on the substrate surface.

13. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soyoma (WO00/42227) in view of Birang et al. (65554003).

Soyoma fails to teach recirculation or filtration. Birang teaches a method of cleaning a work piece. In fig. 1, Birang teaches submerging the work piece in tank 13. The fluid 19 is recirculated through pipe 23 and filtered through 27 to remove particulates. It would have been well within the level of the skilled artisan to have modified the method of Soyoma to include filtration and recirculation, as taught by Birang for economical purposes of reusing the cleaning fluid.

***Allowable Subject Matter***

14. Claims 10-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

15. The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach an aerated jet spray produced by combining a flow of the second chemical solution with a flow of pressurized air provides at a pressure between 1 and 250 psi. The prior art fails to teach the limitations of claim 11.

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nishida et al. teach a submerged cleaner. Chung et al. teach nitrogen and hydrogen peroxide. Shibano teaches ultrasonic cleaning. Donku et al. teach a cleaning method and apparatus. Freytage teaches cleaning of metal parts with steam. Scranton et al. teach vapor cleaning and liquid rinsing. Kim teaches cleaning with a liquefied gas.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharidan Carrillo whose telephone number is 571-272-1297. The examiner can normally be reached on M-W 6:30-4:00pm, alternating Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571-272-1414. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sharidan Carrillo  
Primary Examiner  
Art Unit 1746

bsc



SHARIDAN CARRILLO  
PRIMARY EXAMINER